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SOUTHWEST GAS CORPORATION

August 3, 2005

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007

Subject: Docket No. E-00000E-05-0431

Please accept the original and thirteen (13) copies of Southwest Gas Corporation's comments on the Resource Planning guidelines, as requested by Staff at the Arizona Corporation Commission Resource Planning Workshop held July 6, 2005.

Respectfully,

Vivian Scott, Manager
Research, Conservation and DSM

Enclosures

C: Ernest Johnson/ACC Staff
William Gehlen/ACC Staff
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Stephen Ahearn/RUCO

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2005 AUG -4 P 3:33

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BEFORE THE ARIZONA CORPORATION COMMISSION

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In the Matter of the Notice of 2005 AUG 4 P 3:33
Requested Comments for) Docket No. E-00000E-05-0431
Arizona Resource Planning AZ CORP COMMISSION
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**COMMENTS OF SOUTHWEST GAS CORPORATION ON THE STAFF
REQUEST FOR COMMENTS ON RESOURCE PLANNING**

Southwest Gas Corporation (Southwest or Company) herewith respectfully submits its comments to the Staff request for proposed guidelines for Resource Planning in accordance with the resource planning workshop conducted on July 6, 2005.

Overview

Although Southwest is not providing a strawman resource plan, the Company believes there are some critical factors that should be considered in resource planning. Southwest believes that although Arizona Public Service (APS) has power procurement deadlines as ordered in Decision No. 67744, resource planning policy should not be rushed. Resource planning has too many important implications not only for resource management in Arizona, but also for Demand Side Management (DSM) policy, the Environmental Portfolio Standard, and alternative power generation, such as distributed generation and combined heat and power.

Southwest believes the time has come to craft a new energy future for Arizona that will optimize the use of the State's resources and provide public benefit. Continuing to use traditional energy policies and a business-as-usual approach will no longer suffice for the future energy needs of Arizona. In a presentation at the EUCI Western Power Supply conference in April 2005, ACC Chairman Jeff Hatch-Miller enumerated several challenges that Arizona faces. Among them is one noted by Chairman Hatch-Miller in this visionary comment: "Finding leaders who have the courage to decide energy policy based on the facts rather than the politics."

Southwest submits that the appropriate leadership currently exists in Arizona. The time has come for leaders to be aware of the facts and proceed with the necessary foresight and courage to break with tradition and challenge status quo thinking.

There is no doubt about the challenges Arizona faces. The confluence of explosive growth, immense and escalating power requirements, environmental degradation, prolonged drought, and other factors can be likened to the gathering of a "perfect storm." However, much like a predicted storm, with appropriate planning and decisive thinking, steps can be taken ahead of time to alleviate the potential damage.

Senator Lamar Alexander of Tennessee, Chairman of the United States Senate Energy and Natural Resources Subcommittee on Energy, provides a compelling perspective. When speaking about his national energy bill proposal, Senator Alexander states, "We can't conserve our way out of this crisis; nor can we drill our way out. Instead, we need a comprehensive approach that addresses the classic forces of both supply and demand. This is not a question of tweaking our [energy] policy. It is time to revamp it."

Rather than simply moving ahead with the procurement of additional electric power, it is in the best interests of all Arizona stakeholders and residents to consider Arizona's energy resources and requirements as a whole and to utilize Arizona's finite resources for maximum societal benefit. All stakeholders in the energy business must work together to find workable solutions to Arizona's growing energy needs. Regard for all impacts of energy supply, production and consumption—both on the demand side and the supply side—will result in the best use of Arizona's resources. Among these resources, perhaps the most precious of all for Arizona is water.

The factors to be considered may be grouped into the following categories, which will be considered individually:

- Energy Supply and Infrastructure

- Natural Resources

- Economics

Environment

Human Impacts

Energy Future

Energy Supply and Infrastructure

There appear to be pervasive and yet somewhat inaccurate beliefs that natural gas is in short supply, because it is subject to extreme price volatility. These beliefs may be hampering wise decision-making regarding Arizona's present and future energy needs. As the principal distributor of natural gas for nearly 900,000 customers in Arizona, and as a concerned stakeholder in Arizona's future, Southwest wishes to set the record straight and address this issue with authority and expertise.

Southwest has secured firm capacity on the El Paso natural gas pipeline adequate to meet anticipated needs through the year 2008. Southwest regularly reviews a variety of population growth projections and is fully prepared to serve all its customers, present and future. In short, Southwest has, or can acquire, the necessary natural gas supply and capacity to meet all of the projected demand of its customers.

While Southwest has entered into firm capacity contracts to ensure the reliability of its supply, power plants (and particularly merchant plants) have not always

done the same. Although 63% of natural gas in Arizona is used for power generation, power plants have regularly relied upon short-term interruptible interstate pipeline capacity, and have not entered into long-term firm capacity contracts to meet their prospective needs. Often merchant power plants count on released or turnback capacity from other primary El Paso customers. This approach poses a risk to Arizona. If power plants have not reserved adequate natural gas capacity on the pipelines to meet firm generation contracts, there is an increased probability that electricity will not be available when it is needed most. Natural gas-fired power plants need to be held to a higher standard than they currently employ for natural gas capacity procurement, to ensure that electricity shows up in people's homes, businesses, hospitals, etc. on an uninterrupted basis.

By committing to firm natural gas capacity in their long-term planning, power plants will help natural gas suppliers and pipeline companies to better plan for their own future infrastructure, supply, and storage needs. A need for additional or competitive pipeline suppliers may be identified sooner, and a future potential capacity shortage avoided.

As stated in the 2003 ACC Policy Statement Regarding New Natural Gas Pipeline and Storage Costs: "Arizona utilities should plan for natural gas infrastructure needs on a long-term basis, recognizing that some decisions may not necessarily lead to the lowest cost in the short term." Southwest concurs and

believes that this statement is applicable not only to natural gas utilities, but also to electric utilities and merchant power plants in Arizona.

The distinction between natural gas supply and capacity seems to have devolved into the opinion that "there's not enough natural gas." As stated before, Southwest has adequate firm capacity to serve the demands of its customers, and most of these customers do not require the huge supply required by a single power plant. For example, the Redhawk power plant alone can burn 150% more (on an annual basis) natural gas than all of Southwest's 860,000 residential customers in Arizona. The question policy makers should be asking is not if there is sufficient gas, but is there sufficient firm contracted pipeline capacity and is the supply being utilized in the best possible way for consumer benefit, resource optimization, and preservation of consumer choice?

ACC Chairman Hatch-Miller has wisely said that although new power plants are needed in Arizona to meet the growing demand for electricity, "....there may not be adequate capacity if new gas-fired plants are built in the state. The ACC may require power plant developers to assure the Commission that they have adequate capacity on gas lines or enough storage for the fuel." Southwest concurs with this recommendation.

Southwest is very aware that although natural gas supply for Arizona is adequate, there is still a need for conservation and energy efficiency for both

natural gas and electricity. Senator Alexander states, "Energy efficiency and conservation are the most viable near-term tactics for getting natural gas prices under control. It's also a vital strategy for stabilizing gas markets over the long term."

Southwest recommends that all natural gas-fired power plants in Arizona be required to secure firm capacity on natural gas pipelines as part of the siting and permitting process. Southwest also recommends that energy efficiency measures be fully implemented to optimize the use of all resources before the decision is made to build new power plants.

Natural Resources

Unlike electricity, which is produced from other fuels or sources of energy, natural gas is a naturally-occurring resource. It is a premium fuel, much lauded for its clean-burning and other desirable properties. As with any natural resource, it should be used effectively and sensibly. Its highly effective production and delivery system provides about 90% efficiency from wellhead to burner tip. Southwest maintains that generating electricity—a manufactured energy that is only about 30% efficient from power plant to point of use—is not the optimal use for this precious resource, natural gas.

Rather than perpetuate the belief that natural gas supply should be freed up to generate more electric power, Southwest contends that natural gas supply should not be held hostage to the escalating demands of the power industry. Arizonans must not participate in the squandering of this resource when other options exist. To quote Senator Alexander, "...half our nation's increase in natural gas demand in the past decade has come from its use in the generation of electricity. So to conserve natural gas [we must reduce consumption] of electricity, too." In short, if we want to reduce price volatility of natural gas, we must reduce the demand of this resource for generating power.

When considering power production, the impact on what is perhaps Arizona's most vital resource—water—must also be acknowledged. All types of power plants, with the exception of those that are air-cooled, utilize some amount of water. In the seminal April 2003 paper, *The Last Straw...Water Use by Power Plants in the Arid West*, the Hewlett and Energy Foundations examine the close relationship between power generation and water. The paper states that many [proposed] new power plants could adversely impact the quality and quantity of Western water. Again, the Redhawk plant as an example utilizes 2.5 billion gallons of water a year. This is enough water to supply the annual needs of nearly 40,000 Arizona citizens.

According to Chairman Hatch-Miller, "A scarce water supply...may complicate the state's effort to add new power plants. Arizona is moving toward full use of

its groundwater supplies and its three rivers. Water supplies are already an issue in deciding where to build plants."

Arizona also has an abundance of two other natural resources—sun and wind. These renewable sources of energy may represent a significant portion of Arizona's energy future. Southwest contends that natural gas may be an economical bridge to that renewable energy future if it is allowed to fulfill its highest and best use, as described under the section on Energy Future.

Southwest recommends that water usage be included in resource planning.

Economics

When engaging in resource planning, it is good public policy to have the wisdom and foresight to consider all of Arizona's resources. Policy makers can capitalize on state pride by engaging in innovative thinking that enhances Arizona's energy independence and fosters a sense of community. Securing Arizona's energy future improves the state's economy and allows public officials to leave a legacy of wise resource management.

When power producers are allowed to use Arizona resources and create pollution to generate power for out-of-state sale, Arizonans enjoy few benefits. Yet they bear the burden of depletion of their water supplies and detrimental

effects on their environment and air quality. In spite of contributions to the Arizona tax base, these merchant plants can result in an overall negative effect on Arizona's economy.

Southwest believes all power plants should be subject to the same ACC siting, permitting, oversight, and resource planning requirements. All power plants should be required to include plans for demonstrating natural gas transmission capacity or storage. As stated in ACC Decision No. 67744, APS needs to "...focus on developing needed infrastructure and developing a flexible, timely, and fair procurement process." To the extent that this requirement contemplates development of adequate interstate pipeline capacity resources, the Commission may consider incorporating these requirements in the siting of merchant power plants.

Southwest recommends that the long-term economic impact of power generation-related energy infrastructure on Arizona consumers be considered in resource planning. Energy must be provided reliably with the most benefit and at the least overall cost to the end user.

Environment

Southwest is a proponent of pragmatic environmentalism, wherein concern for the environment is coupled with the realities of the marketplace and good public

policy. Southwest espouses environmental responsibility in resource planning. All the environmental impacts of new power plants should be diligently assessed in the early planning stages—and this includes merchant plants.

Power plants also use up valuable land. Power plants and their associated transmission lines are particularly susceptible to the “not-in-my-backyard (NIMBY)” syndrome. They also consume huge amounts of water, thereby depleting the water table. This depletion can cause land subsidence and a reduction in available potable water for human use.

However, there is another environmental effect that is perhaps less well-known. “*The Last Straw*” talks about the chemical treatment of water required at power plants. The fresh water used by the cooling systems contains natural background salts and solids, which can accumulate in the cooling equipment as the water evaporates. The residue of these chemical treatments is discharged into receiving waters, designated wastewater collection ponds, or recharged into the groundwater system. These wastes can contain high concentrations of heavy metals, sometimes at toxic levels.

Southwest recommends that the approval process for new Arizona power plants should consider a full accounting of the environmental impacts.

Human Impacts

When considering power production, the human health impacts of exposure to emissions must be considered, particularly on the most vulnerable populations—the very young and the very old. Asthma and other respiratory ailments are nearly epidemic in the Southwest, and airborne pollutants exacerbate the condition.

Another concern is the impacts of growth on sustainability of consumer choice in Arizona. The most efficient use of natural gas is obtained when it is used to fuel gas-fired appliances, rather than to fuel less efficient electric generating plants that must then transmit the generated electricity over significant distances which create incremental inefficiencies. Recognition of these efficiencies in the resource planning process will help ensure that Arizonans continue to have choice in how their energy services are provided and that they receive those energy services at the lowest possible cost.

Southwest recommends that resource planning fully consider the human impacts of energy production and use, and the maintenance of consumer energy choice.

Energy Future

Arizona's energy future will be shaped by today's policy makers with the courage to act decisively. The Company believes that energy diversity is crucial to the vitality and economic health of the burgeoning Southwest. Policy makers, legislators, businesses, and consumers must all do their part to ensure that Arizona's resources and needs are balanced for optimal public benefit. The "perfect storm" that is brewing will not go away, nor will the demand for reliable energy—both electricity and natural gas—at the lowest cost to the end user.

In addition, as stated before, natural gas can be an economical and viable bridge to renewable energy. By using natural gas for all the things it does best and avoiding the proliferation of its use in additional power plants, electric companies will gain assistance with their resource planning. The need for new power plants will be reduced. This, in turn, will help to buy time for renewables to be more fully developed and made more economically feasible.

Another consideration should be the expanded use of site generation of electricity to serve local needs. Given the sprawl in Arizona's major population areas, distributed generation (DG) or combined heat and power (CHP) can provide electricity in a specific area without transmitting it over miles of wires to far-away locations. This type of production on the customer side of the meter could actually result in surplus power which then could be made available to the

grid. These smaller, more effective technologies could go a long way toward reducing the need for new power plants and should definitely be included in resource planning. It may be time for the Commission to set targets for CHP and DG as a way to ease the electric grid problem.

Southwest recommends that resource planning consider all means of reducing the need for additional power plants and use of the associated resources. Strategies should include power demand reduction, fuel diversity, distributed generation, and limitations on the use of Arizona's resources by merchant power plants.

Conclusion

In sum, Southwest appreciates the opportunity to comment on the extremely important issue of resource planning in Arizona. Southwest looks to the Commission to chart the course for a new energy future, while steering clear of the looming factors that could otherwise pitch Arizona into the eye of a perfect energy storm.